RESEARCH IN THE CASS REGION (NOTE)

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ABSTRACT

Twenty-one vascular plant species are added to the known flora of Cass and some corrections made to the floristic list. The occurrence of *Nothofagus fusca* on the south side of the Waimakariri River is verified. The paper lists completed theses and publications on science in the Cass district since 1977.

ADDITIONS TO THE FLORA

With the publication of the book *Cass* (Burrows 1977) we considered that the vascular plant flora of the Cass district was well known and that there were probably few additional species to be found. However, recent fieldwork shows that there are still species unrecorded. Additions and some corrections to the list in the book are noted below (Table 1). Specimens have been placed in the herbarium of the Department of Botany, University of Canterbury.

Some visitors to Cass have been puzzled about what constitutes the Cass region, from the point of view of floristic and faunistic records. Our rule of thumb has been to include taxa found at any locality within a day's walking distance of the Field Station.

CORRECTIONS TO FLORISTIC LIST

Dr P.N. Johnson (pers. comm.), investigating aquatic and semi-aquatic macrophytes at Cass, notes that *Schizeilema nitens* (recorded in Burrows 1977 as "possibly extinct") is still present at Lake Sarah, Lake Grasmere and Kettlehole. He also notes that *Epilobium alsinoides* ssp. *tenuipes* may have been listed in Burrows (1977) in error for *E. angustum*, which is present.

Dr A.T. Dobson (pers. comm.) points out that *Glyceria plicata*

TABLE 1. ADDITIONS TO THE VASCULAR PLANT FLORA OF CASS

Species	Locality	Habitat	Collector
Chionochloa rigida (Gramineae)	"Treasure Island" in Horrible Bog	shrubland	C.J. Burrows
Cotula maniototo (Compositae)	Lake Pearson	lake margin	P. Johnson
* *Digitaria sanguinalis* (Gramineae)	Field Station (ephemeral)	gravel	C.J. Burrows
Eleocharis gracilis (Cyperaceae)	Kettlehole Bog, Grasmere	bog, lake margin	A.T. Dobson, P. Johnson
Epilobium angustum (Onagraceae)	Kettlehole	wet ground	P. Johnson
* *Festuca arundinacea* (Gramineae)	Pylon Gully		A.T. Dobson
* *Hieracium auricanticum* (Compositae)	Manson Stm	grassland	D. Norton
Hydrocotyle hydrophila (Hydrocotylaceae)	Lake Sarah, Lake Grasmere	lake margin	P. Johnson
H. microphylla (Hydrocotylaceae)	Lake Sarah	lake margin	P. Johnson
H. sp. aff. *tripartita* (Hydrocotylaceae)	Hawdon R.	streamside	P. Johnson
* *Hypericum mutilum* (Hypericaceae)	near Kettlehole Bog St Bernard Saddle	wet ground	P. Johnson, C.J. Burrows
Lepidosperma australe (Cyperaceae)	Goldney Saddle	wet ground	C.J. Burrows
Leptospermum ericoides (Myrtaceae)	S.E. side of Sugarloaf (3 plants seen)	open scrub	C.J. Burrows
* *Malva neglecta* (Malvaceae)	Field Station (ephemeral)	gravel	C.J. Burrows
Pelargonium inodorum (Geraniaceae)	Manson Stm	one year old forest burn	C.J. Burrows Det. A.T. Dobson
Pseudopanax anomalus (Araliaceae)	Old Bealey Hotel site, Mt White bridge	beech forest	C.J. Burrows, A.T. Dobson
Ranunculus limosella (Ranunculaceae)	Lake Sarah, Lake Pearson	lake bottom	P. Johnson
* *Ribes nigrum* (Grossulariaceae)	Cass R. bank opp. Romulus	scrub	A.T. Dobson
* *R. sanguineum* (Grossulariaceae)	Manson Stm	scrub	C.J. Burrows
Scirpus fluitans (Cyperaceae)	Horrible Bog, Og Swamp	marsh	P. Johnson
Tillaea sinclairii (Crassulaceae)	Lake Sarah	lake margin	P. Johnson, C.J. Burrows

*Indicates adventive species

should be deleted from the floristic list and replaced with *G. declinata*.

DISTRIBUTIONS AND HABITATS

Some seedling *Nothofagus fusca* plants were previously reported from Chilton Valley (Burrows 1977, p. 244). In May 1980 I found a single sapling of this species (c. 1.5 m high) and a single sub-mature tree (c. 8 m high, c. 40 cm diameter at ground level) growing in *Leptospermum* scrub on the rolling glaciated slopes of Broch Hill, overlooking Goldney Saddle (grid ref. S66/221198). The sapling is probably derived from seed from the adult tree. The nearest *N. fusca* stand to this locality is 3 km distant, across the Waimakariri River. This further supports the view that *Nothofagus* species can migrate, over considerable distances, by wind dispersal (Burrows 1977, p. 244-5).

Coltsfoot, *Tussilago farfara*, reported previously as a potentially troublesome weed (Burrows 1972) is spreading at Cass. Plants have been found at two sites in the Cass riverbed (grid refs S66/205143, S66/212152).

Miss J. Singleton rediscovered *Myosotis uniflora* on riverbed near the confluence of Cass and Waimakariri Rivers in 1975 (Burrows 1977, p. 219), after a hiatus of 60 years (cf. Cockayne & Foweraker 1916, Foweraker 1917). Two plants only are known and they are both vulnerable to flooding, burial and/or erosion by both rivers (Ms J. Hammond pers. comm.).

After I found plants of *Schoenus apogon* on the Goldney Saddle in 1958 this species, which has a widely disjunct series of distributions, was not seen again until I again found several plants in May 1980 (grid ref. S59/208202). The habitat is grassland on slopes (not flush, as given in the checklist of the flora).

In May 1979 I found, at the south end of Sugarloaf (grid ref. S66/262156), an unusual form of *Blechnum penna-marina* with incised pinnules. This probably warrants cytologic investigation.

A few shrubs of *Leptospermum ericoides* were found at the southeast end of Sugarloaf in February 1980. This seems to be the westernmost distribution of the species in Waimakariri catchment.

A single patch of the sedge *Lepidosperma australe* occurs on the Goldney Saddle. This species of sour soils is widely disjunct in Canterbury, but widespread in Westland. It may be adventive at Cass, though the presence of *Schoenus apogon* nearby points to long-standing presence of suitable habitat conditions.

Oreobolus pectinatus is usually regarded as a species of cushion bogs but at Cass occurs in two other, well-drained habitats. Occasionally it is found in short grassland or snow tussock or among open *Leptospermum scoparium* scrub on near-level sites underlain by old forest soils. It also occurs on slopes in the valley floor of Snowslide Stream which are regularly swept by snow avalanches. The substratum is very well drained, the soil is probably relatively fertile and the common associated species, forming a very open, stunted community, are *Festuca novae-zelandiae, Chionochloa macra, Poa colensoi, Dracophyllum pronum, Cyathodes fraseri, Anisotome flexuosa, Luzula crinita, Blechnum penna-marina* and *Racomitrium lanuginosum.*

THESES COMPLETED SINCE 1977
(p = part of work at Cass)

BOTANY

McINTOSH, T.T. 1979. Snow avalanches and their effects on scrub and herbaceous vegetation. (M.Sc.)

WILLS, B.J. 1979. Mycorrhizal development in trees for revegetation of eroded mountain slopes. (Ph.D.)

ZOOLOGY

p DEACON, K.J. 1980. The seasonal regulation of four species of Odonata, with particular reference to the relationship between altitude and larval development. (Ph.D.)

McCAMMON, R.G. 1978. Organic energy flow in a mountain beech forest stream ecosystem. (M.Sc.)

PUBLICATIONS SINCE 1977
(p = part of work at Cass)

BOTANY

p BURROWS, C.J., CONWAY, B.R., McINTOSH, T. 1980. Snow avalanches and vegetation. pp. 56-73. *In*: Owens, I.F. & O'Loughlin, C.L. (Eds.) *Snow avalanches: a review with special reference to New Zealand.* New Zealand Mountain Safety Council, Avalanche Committee, Report no. 1, 113 pp.

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*omitted from the 1977 list.

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